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DATAMATION®

FEBRUARY 1, 1988
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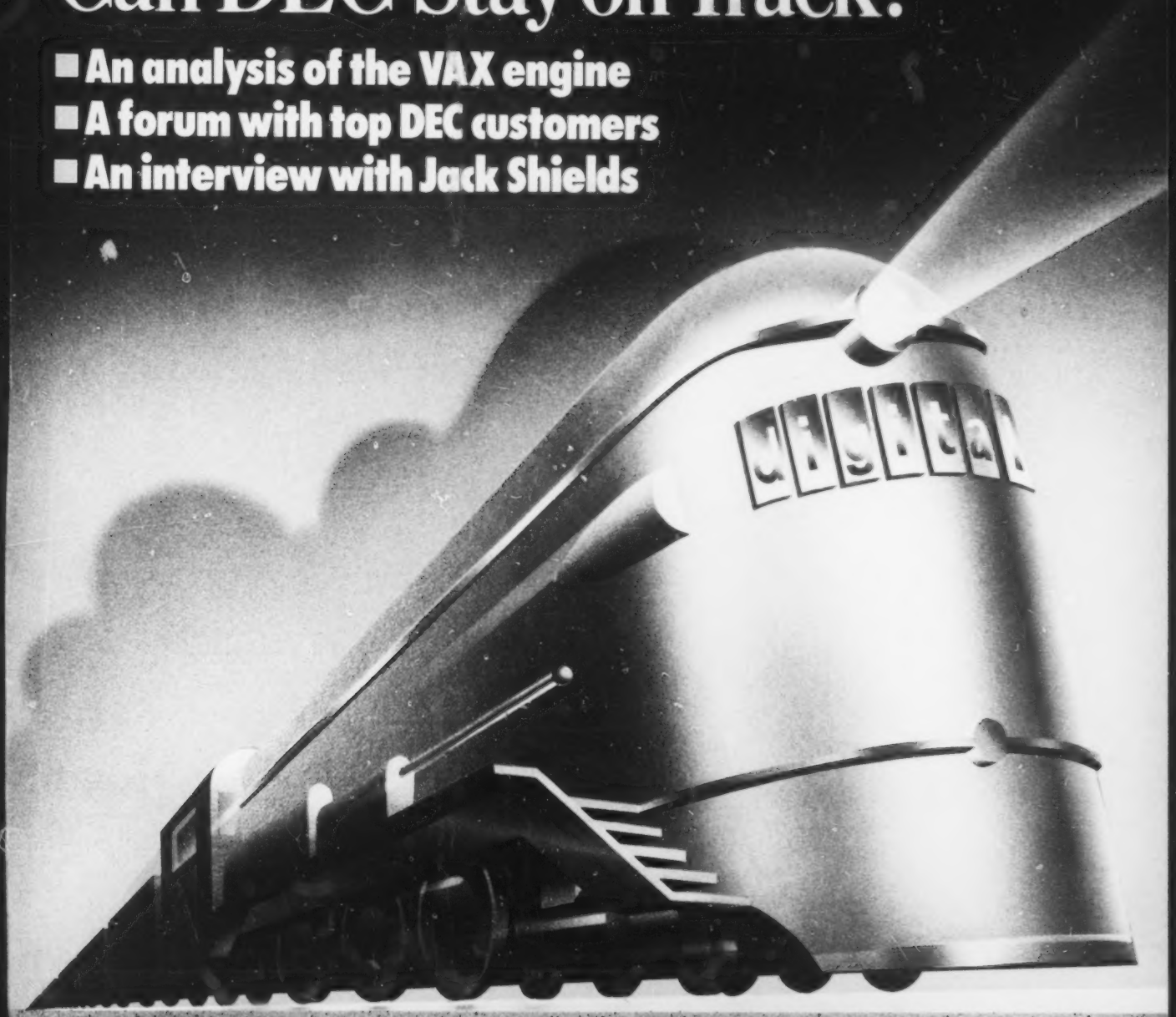
THE NEXT FIVE YEARS

Can DEC Stay on Track?

- An analysis of the VAX engine
- A forum with top DEC customers
- An interview with Jack Shields



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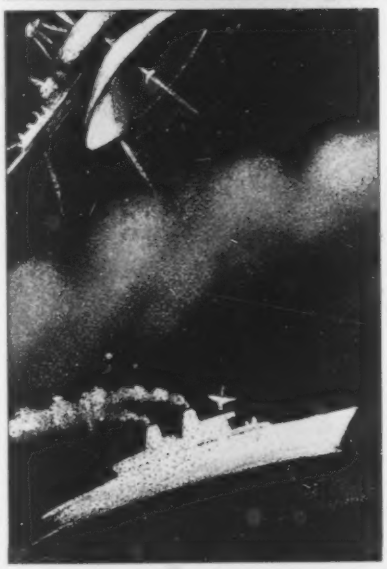

DEC THE NEXT FIVE YEARS

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BY GARY McWILLIAMS
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Cover Illustration by Jim Ludtke

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Editorial

Sounds of Silence Are Out of Tune

An eerie silence swept over the information technology plains after October's stock market crash. Vendor press conferences dwindled to a few. End-user case histories nearly vanished. And the ritual year-end briefing sessions by market research houses either never materialized or were delayed.

The silence was more than deafening. It was dismaying. End-user research by DATAMATION/Cowen & Co. and product life-cycle analysis by Sanford C. Bernstein & Co. suggest that now is the time for both systems vendors and software vendors to be making the most noise.

Spending plans for pcs and minis by end users remain positive despite the Oct. 19 crash, according to responses from nearly 3,000 end users polled by the magazine and Cowen during a 10-week period following Black Monday. The rate of gain for pcs and minis slowed somewhat during the period, but it was still on the positive side.

The industry, meanwhile, is in the midst of a new product cycle—a crucial time for vendors to generate the revenues needed to fund their next round of R&D investment. Bernstein, astutely observing that product cycles have fueled the growth of systems companies in years when capital spending in general turned downward, sees earnings for companies with major new systems growing between 25% and 50% this year, and sees earnings expanding 15% to 25% for those that are in between product cycles.

We wonder, however, just how much of that business will be lost by the self-imposed silence that vendors seemed to be observing in the final days of 1987 and the early hours of 1988. The business certainly seems to be there. Sure, there may not be as much of it on Wall Street as once thought. Then again, there may be more of it in manufacturing centers such as Pittsburgh, as the stories by Mary Jo Foley ("The Winds of Change Are Blowing for MRP II Users," p. 19) and Tom McCusker ("Heinz Embarks on IS Course To Handle a Growing 'Variety' ," p. 36) in this issue will attest.

If your strategic vendors haven't come out of the doldrums, make them. If you don't, you may not have the products you need down the global road.

Tim Mead

TIM MEAD
EDITOR-IN-CHIEF

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Letters

Thanks!

I received my Dec. 1 issue of DATAMATION today. As is often the case, I took an immediate look through the table of contents for items of interest. In this issue I discovered the article "Information Economics: An Introduction" (p. 86) by Marilyn M. Parker and Robert J. Benson. This article is an excellent example of the material I have come to expect from DATAMATION. It brought an interesting concept to my attention, and provided an excellent overview of that concept.

I am looking forward to the publication of the book about information economics. Thanks for bringing these excellent pieces to those of us in the information systems industry.

DAVID RAY FULLER
Information Systems Manager
Northview Corp.
San Diego

Nothing In Common?

I read with interest the article entitled "Customer Clout!—DATAMATION's Directory of User Groups" (Dec. 15, p. 52). I was very surprised, however, to find that COMMON—which I believe is the largest IBM user group—was not listed. Since you indicate that your information was supplied directly by the vendors, could it be that midrange system users really don't carry much "customer clout" with IBM?

JAMES L. ALDERMAN
President
Indiana Data Processing Services Inc.
Indianapolis

Ouch!

In your Dec. 15 Look Ahead section, there is a heading "BT Calls in the Calvary." Calvary is a hill outside Jerusalem where Jesus was crucified. What I believe your writer meant was *cavalry*: "troops trained to fight in armored vehicles or on horseback."

PETER HUTNICK
Westminster, Colo.

Off Course

Thirty-five years ago, my grandparents and many of their children took their covered wagons across the country from New York to California. Just a few years ago, my brother joined them in the land of the lotus eaters. No doubt others have made similar unselfish contributions to reducing population pressure on the East Coast. But I can assure Karen Gullo (Dec. 15, p. 98) that Route 128, America's Technology Highway, has most definitely not been magically transported from greater Boston to Silicon Valley; that would certainly be, to use her phrase, "infamous."

It is quite surprising to see such a mistake made in a magazine belonging to the Cahners organization. The Cahners family has made many valued contributions to the 128 area, including such technology-oriented philanthropies as the Computer Place, a learning and experimentation exhibit at Boston's Museum of Science.

DENNIS P. GELLER, PhD
Brookline, Mass.

Share Alike

Your brief description of SHARE (Dec. 15, p. 62) contained some small discrepancies.

SHARE holds not one, but *four* national meetings per year. Two are "major" meetings drawing from 4,000 to 6,000 people; two are "interim" meetings with attendance typically under 1,000. The Anaheim meeting cited is a major meeting.

The officers' names are reversed with respect to the photograph; I am the shorter of the two handsome gentlemen pictured.

Putting on another hat, as Chairman of the International User Group Council (IUGC), I am disappointed that only two of the seven user groups represented in the Council were mentioned in your directory. The IUGC presently consists of seven members, each of whom is the president of a user group organized according to the SHARE/GUIDE model. In addition to SHARE and GUIDE, there are SEAS, the SHARE European Association; GUIDE, GUIDE Europe; ASG, Australasian SHARE/GUIDE; GLA, GUIDE Latin America; and, JGS, Japan GUIDE/SHARE.

Together, we represent the majority of large-scale IBM customers worldwide. In addition to these, there are other user groups worldwide that follow the COMMON Model (COMMON was a glaring omission from your article) and probably hundreds of regional or special-interest groups that probably should have been mentioned en masse. All of these focus on IBM; God knows how many we would find if we were able to count all groups associated with all vendors.

MICHAEL F. ARMSTRONG
President, SHARE Inc.
Chairman, IUGC
Miami

PARALLEL PROCESSING

IBM-Chen Deal: Aces for Some, Deuces for Others

Commercial end users think Big Blue-Big Brain pairing will strengthen their hand in supercomputers, while scientists and engineers see few trump cards.

BY KAREN GULLO AND WILLIE SCHATZ

Despite the shouting and tumult accompanying the move, all of IBM's megabucks won't make its partnership with Steve Chen the second coming of parallel processing.

"How much can anybody, even IBM, do to put a stamp of approval on something that's already here? Parallel processing is hardly a radical shift in computer design," says a supercomputer user at a major government laboratory.

Parallel processing is not new to either IBM or the supercomputing industry. Big Blue offers parallel processing on its 3090 with Vector Facility line of mainframes. It also has a number of experimental parallel processing projects in the works, for which it will not provide many details.

One such project, at IBM's Thomas J. Watson Research Center in Yorktown Heights, N.Y., is called GF11, which IBM says is a Single Instruction Multiple Data Stream array of processors that can achieve 10 billion floating point operations per second. The machine is designed specifically for advanced particle physics applications.

Another Watson Center project is the Research Parallel Processor Prototype (RP3), which is a Multiple Instruction Stream/Multiple Data Stream system consisting of conventional microprocessors. This project is headed by Carl Conti, who made the announcement of the Chen-IBM partnership. Observers have speculated that RP3 consists of clusters of proprietary 32-bit processors with attached floating point accelerators.

ETA'S LEDBETTER: IBM compatibility is key for Chen.

Photograph by Steve Wall

New York University has been working on software for the RP3, while Cornell University, a National Science Foundation supercomputer center, is experimenting with an IBM-donated 3090 600 attached to a minisupercomputer from Floating Point Systems, Beaverton, Ore. In the meantime, an IBM spokesperson says the company uses an internally developed high-performance system, the Engineering Verification Engine, for system design simulation.

Meanwhile, every supercomputer vendor worth its salt, from Cray Research and ETA Systems to Thinking Machines and Alliant, offers some degree of parallel processing. The architecture has been around for about 10 years in the scientific and technical markets.

Parallel processing is barely visible in the commercial world, however. Furthermore, according to a study by the Minneapolis-based Consortium for Supercomputer Research (CSR) obtained exclusively by DATAMATION, only the availability on supercomputers of DBMS software, programming tools, and compilers for widely used mainframe languages such as COBOL will alter that. Some DBMSs, such as Oracle's (Belmont, Calif.), have been moved to minisupercomputers. Minneapolis-based Cray offers Informix and SQL under its Unix-like operating system on the Cray-2. For the most part, however, DBMS work on supercomputers has been slow.

New Market Segments Created

The study reports that "Evolving database management systems will dramatically affect the supercomputer market because they will create whole new market segments which may be much larger than the original supercomputer market. To really understand the expansion of the supercomputer market, one must change the definition of a supercomputer from that of a specialized scientific and engineering tool to that of a highly cost-effective, high-performance data processing machine."

Amen, says a recent report on high-performance computing by the President's Office of Science and Technology Policy (OSTP). After noting that large-scale parallel systems provide even greater challenges than traditional sequential systems in software development and adaptation, the report recommends that "in order to achieve the full potential impact of large-scale parallel computing on applications, major new conceptual developments in algorithms and software are required."

So, will IBM's muscle behind Steve Chen make that happen? And how will the partnership and its expected result, a 64-processor ma-

chine that is at least five years away, affect the supercomputer market?

No one knows whether IBM and Chen will change the definition of supercomputers. But everyone knows why IBM put up the money.

"It was a no brainer for IBM," says Gary Smaby, vice president at investment firm Piper Jaffray & Hopwood, Minneapolis. "They have no visibility in the high end of the market, and this is one way of getting credibility without a lot of investment."

Smaby estimates that IBM's initial investment in Chen's company, Supercomputer Systems Inc. (SSI), in Eau Claire, Wis., will be a mere $10 million to $15 million. IBM says the funding level is proprietary information. Chen did not return phone calls by press time.

According to Peter Patton, chairman and chief scientist at CSR, "Even if IBM invests $30 million, that's a lottery ticket for them. They intend to win the parallel processing game." Without the visibility that Smaby refers to, it will be tough for IBM to get even a small piece of what's going to be a very big market. The worldwide supercomputer market is estimated to hit $11.8 billion by 1991, according to a recent report on parallel processing by Electronic Trends Publications, a Saratoga, Calif.-based market research firm.

There are some big bucks at stake in the U.S. government market, a leading buyer of supercomputers. According to the OSTP report, the federal government is now spending $500 million a year on all aspects of high-performance computing. The report, which urges the government to establish a long-range strategy for basic research on high-performance computing, recommends a spending increase of $1.7 billion over the next five years.

The answer to the second question is more difficult. For scientific and technical users, the IBM-Chen marriage is mildly interesting, but they're not about to wait five years for the offspring. For commercial users, however, this may be *the* big break.

"It will make parallel processing a serious commercial reality," says CSR's Patton. "It's analogous to the pc revolution. Once IBM blesses the technology, the traditional IBM customer base will take parallel processing much more seriously."

3090 May Act as Front End

Interviews with supercomputer users and IBM 3090 customers reveal that some are very enthusiastic about the prospects of an IBM-blessed supercomputer, while others are taking a wait-and-see attitude. IBM has hinted that the 3090 may act as a front end to Chen's machine. An eventual upgrade to a supercomputer from a 3090 with vector capability is an attractive scenario to users in the oil industry, many of whom are running seismic processing applications on 3090s already.

One such user, who requested anonymity, will soon upgrade from two 3090 200s to two 3090 400Es at a cost of $6 million. That's half of what a Cray would cost, the user points out, and with the IBM environment, he can run not only his technical applications but his commercial database applications as well. "After that, we will need even more computational power," he says. Another upgrade, perhaps to a supercomputer at a cost of, say, $10 million to $20 million, would be money well spent if existing technical and commercial applications could be easily moved over via the 3090 environment.

"A $10 million upgrade is the cost of a dry well in the Gulf of Mexico," he says. "If we can use the technology to ensure one extra good well a year, the technology has paid for itself."

Jerold Waggoner, director of computing research at Amoco Oil Production, Tulsa, Okla., says if someone told him IBM was going to market a supercomputer two years ago, he would have wanted one, no questions asked. Now he's not so sure.

Amoco's installation includes Sun and Apollo workstations, Alliant minisupercomputers, IBM 3090s with vector facilities, and Crays. "We're heavily invested in IBM," he says, "but now the whole workstation world has blown open. It's a very good way of accessing supercomputers, much better and much cheaper than front-ending them with 3090s. We are definitely moving in the direction of workstations as front ends, and IBM doesn't have a good workstation offering."

A recent study on supercomputer usage trends by Newton Evans Research Co. Inc., Ellicott City, Md., shows that of 79 supercomputer users, 60% were using desktop systems (microcomputers, workstations, and/or terminals) to access supercomputers and 40% were using minis and mainframes.

It's important to note that IBM customers in the oil industry represent a unique subset of the 3090 world. Several years ago, IBM came out with the 3838, a precursor box for array processing specifically designed for seismic applications. Many oil companies invested in the product. When IBM came out with the 3090 vector facility in 1985, it had a 3838 emulator, so all the existing code generated on the 3838 can run on the 3090.

Will other 3090 users in the insurance, banking, and transportation industries be able to move applications over to an IBM supercomputer? No one knows. If they could, IBM would make a big splash in the supercomputer industry. The CSR report indicates that these three industries, all big IBM user bases, are ripe to move into supercomputing. The report says three unidentified insurance companies are currently considering a supercomputer purchase.

Will It Be IBM Compatible?

However, most observers believe that Chen's machine will represent revolutionary technology that will not be IBM compatible. Although IBM has a presence among commercial accounts eager to explore supercomputing, Carl Ledbetter, president and ceo at ETA Systems, St. Paul, says that without IBM compatibility, Chen's machine will have "no real advantage in the market."

That remains to be seen. Meanwhile, market leader Cray and other competitors aren't standing still. The introduction of the Y-MP, a follow-on to the X-MP, is set for next week, while a 16GFLOP

Parallel Processing Market Segments

(in $ millions)

	1986	1991
Supercomputers	3,866	11,800
Minisupercomputers	390	1,750
Mainframes	140,000	205,000
Workstations	960	1,930

Source: Electronic Trends Publications, Saratoga, Calif.

Cray-3 prototype could be operational by year's end and may be introduced by 1991 or 1992. The 64-processor Cray-4 could also debut in five years, perhaps in time to meet Chen's machine head-on. The IBM-Chen partnership may also stimulate the relationship between Cray and Digital Equipment Corp. Observers predict that DEC's future vector processing offering will easily communicate with a Cray.

And what of IBM's pre-Chen parallel processing projects? IBM says only that those projects are "ongoing," and that SSI and IBM will exchange technical information, but some observers expect the company to introduce interim products prior to the debut of Chen's machine.

"Chen's going to have an uphill battle even with IBM behind him," says Amoco's Waggener. "But I'm sure they'll sell systems because it's IBM, not because of the technology."

The partnership's only immediate impact appears to be on the U.S. supercomputer industry's competition. Sources indicate that government pressure, particularly by the Department of Energy, on IBM to join the supercomputer race was a major factor in Big Blue's decision to do so.

"There's no doubt that it gives the U.S. a major player to fight off Japan," says Sid Karin, director of the NSF-funded San Diego Supercomputer Center. "If IBM's entry helps hold off the Japanese for a few years, the U.S. international position will be even stronger."

Even IBM's competitors in the supercomputer industry hope Big Blue becomes a force in the market. Says ETA's Ledbetter: "Then we'll have three big American companies competing against the three big Japanese companies." ■

Photograph by John M. Roberts

MANUFACTURING

The Winds of Change Are Blowing for MRP II Users

Standards, integration, and customization are at the top of the priorities list for users, and as they become more vocal, vendors strive to keep pace with their demands.

ETTLING OF ELJAY: An MRP II package will never be a 100% fit.

BY MARY JO FOLEY

While users of computer aided design and engineering (CAD/CAE) software have experienced success in their push for standards, users of Materials Resource Planning (MRP II) have not been quite as successful—yet. But the seeds of standardization in this area, which carry the promise of longer-term change, are slowly being sown.

As it stands now, MRP II users are happy if they stumble upon a package that, at least to some degree, meets their business needs and is not entirely incompatible with their other manufacturing packages. These packages include both CAD/CAE and computer aided manufacturing (CAM), which, along with MRP II, comprise the heart of computer integrated manufacturing (CIM).

Users increasingly are making it known that they need and expect more help from vendors in integrating their various manufacturing software products. Current and future standards, including Unix, the Manufacturing Automation Protocol (MAP), and the International Graphics Exchange Standard (IGES), are steadily emerging as absolute requirements.

As a first step toward satisfying these demands, some users have begun teaming with vendors—for example, pharmaceuticals giant Ciba-Geigy with Management Science America Inc. (MSA)—to develop and market the custom interface and module products they have created while cutting their CIM teeth.

In the U.S., between 8,000 and 15,000 companies, out of a total of 43,000 companies with manufacturing sites of 100 employees or more, are "doing something" with MRP II, says Chris Gray, president of Oliver Wight Software Research, a Newfields, N.H.-based market researcher. No vendor, with the exception of IBM, has more than 2,000 sites, according to Fra-

mingham, Mass.-based industry watcher International Data Corp. IDC's statistics show that MRP II customers are predominantly in the automotive, electronics, and aerospace and defense industries (see "Charting Manufacturing Software").

Part of the reason for MRP II's limited appeal is that vendors have attempted to make their packages be all things to all people, rather than introducing customized versions for particular vertical markets.

This isn't likely to change any time soon. Almost all micro, mini, and mainframe MRP II packages include production planning, master production scheduling, MRP I, and capacity requirements planning modules. Yet, "most industries have very specific kinds of needs," says Julie Pingry, editor of the *CIM Strategies* newsletter published by Cutter Information Corp., Arlington, Mass. For example, among automotive manufacturers, electronic data interchange capabilities are a top priority, but among pharmaceutical vendors, extremely tight lot tracking is the prime concern.

As a result, those users that have taken the MRP II plunge traditionally have been left with no choice other than to dish out up to $1 million for mini and mainframe packages (micro packages can run up to $100,000). These packages then must be stripped of unnecessary features and built up in areas where they are lacking. Further expenses include training, education, and consultants' fees.

Two Categories of Customers

Because of these constraints, MRP II and CIM customers have tended to fall into one of two categories, Pingry says. Very large companies—usually at the Fortune 500-level, with one entire division or more dedicated to manufacturing—have had "a fair bit of success" in employing manufacturing software. Digital Equipment Corp., which is estimated to have spent many millions of dollars automating its various computer manufacturing operations, is an example.

The second category, Pingry says, includes small (often startup) companies—especially in the electronics and government contracting businesses—that have been able to build their operations around the new generation of manufacturing software products.

Some customers have been luckier than others. At the Eugene, Ore.-based Eljay division of Cedarapids Inc., a heavy construction equipment manufacturing subsidiary of Raytheon Co., fairly little customization was needed for ASK Computer Systems Inc.'s Manman minicomputer MRP II package, according to Eljay's information systems manager Will Ettling.

At Eljay, Manman is installed on the company's DEC VAXcluster system. It connects directly with Computervision's VAX-based CAD system and Intermec's barcoding system. According to Ettling, the company is in the process of selecting a CAM vendor, whose software will further automate the manufacturing process by electronically gathering work orders.

"The percentage fit will never be 100%," Ettling acknowledges. "We had to jump through hoops to adapt our business to their [ASK's] system. But you find a middle ground and meet at it." He adds that "Manman's beauty is that it can handle all parts of your business. It's a real complex, all-encompassing system. But organizations have to have lots of prerequisites in place—like quality control programs, distributed databases, etc.—before bringing in an MRP system." Ettling says that many other Raytheon divisions also employ Manman, but they tap only a small part of its potential for this very reason.

User-Vendor Alliances Form

Other customers have been less fortunate in finding an MRP II system to meet their specific needs. At medical supplier Ciba-Geigy Inc., based in Summit, N.J., heavy customization of the AMAPS-Q mainframe MRP II package—a product of Comserv Corp., which was acquired in 1986 by MSA, Atlanta—has been the order of the day.

Since 1983, Ciba-Geigy has been devising an automated dispensing system that will work directly with AMAPS-Q, says Bill Stein, assistant director of process automation and microprocessor development for the company's pharmaceuticals division. The system automatically measures and weighs the chemicals and other ingredients that comprise various drugs, while AMAPS-Q automatically routes these quantities to particular manufacturing areas.

"In 1983, when we started, CIM wasn't popular yet," Stein says. Accordingly, the company ended up writing much of its own interfaces and modules using the C programming language. Now, Ciba-Geigy is licensing its software to other companies, as well as engaging in joint marketing deals, such as the one it has with MSA for its dispensing system. While manufacturing hardware and software vendors have engaged in these teaming arrangements for some time now, such MRP II vendor-user alliances are a relatively new phenomenon.

Microcomputer-based MRP II users also are doing some customization work. But because the packages they use are smaller and less complex, their task is usually easier. Virtual Imaging, a Sunnyvale, Calif.-based startup that sells computers used in medical and other imaging applications, is an example. The company employs MAX, an IBM-compatible product designed by Micro MRP Inc., of Foster City, Calif. Manufacturing operations manager Larry Hojer only recently hired his first consultant—a programmer experienced with Ashton-Tate's dBase III.

Charting Manufacturing Software

FIGURES ARE FOR 1986

INDUSTRY SEGMENT	PENETRATION RATE* (BY PERCENT)	TOTAL SYSTEMS
Automotive & parts	55.9	2,109
Electronics & instruments	51.6	12,631
Aerospace & defense	33.9	760**
Fabricated metals	17.0	5,001
Machinery & tools	10.5	5,852
Consumer durables	8.1	2,589
Transportation & construction	5.4	2,864
Process industry	2.3	3,445
TOTAL	10.1	35,251

*Includes replaced packages within the installed base; therefore, penetration rate may be 70% of the rate shown here.
**Includes first-tier contractors only.
Source: International Data Corp., based on 1987 U.S. Census Bureau data

Virtual Imaging uses dBase as the foundation for the interface between its CAD/CAE systems and MAX, and as its sales/marketing database, which it is connecting with its MRP II system.

The company has done all of this in less than a year, Hojer says. "Micro-based local area networked systems are the way to go for small-to-midsize manufacturing companies," he claims. Even though the company currently generates between $3 million and $4 million in sales annually, "We could easily do $100 million and still stay with our micro-based [MRP II] system," he says.

One-Stop Manufacturing Shops

Despite the drawbacks of existing MRP II packages, positive comments such as Hojer's are the rule rather than the exception. This is because the alternative to MRP II is piecemeal, time-consuming, nonautomated manufacturing. Vendors are working to take advantage of this situation by positioning themselves as one-stop manufacturing shops. Some customers are buying into this approach; others, whether by choice or by default, are going the integration route.

With its "IBM=CIM" ad campaign, IBM presents an obvious example of a vendor that aspires to provide customers with all of their manufacturing hardware, software, and services.

Hewlett-Packard is following a similar strategy. The company touts its position as its own largest customer as proof of its CIM expertise. It sells its Hewlett-Packard-developed mini-based MRP II and CAD/CAE packages, as well as various third-party offerings, through a number of marketing programs. Hewlett-Packard is also improving its networking software for its customers with manufacturing equipment from various vendors.

MSA also is playing up its ability to fill its customers' diverse mini and mainframe software needs, ranging from MRP II and distribution planning to data processing and artificial intelligence-based packages. In areas where it does not offer packages (CAD/CAE or bar coding, for example), it has established third-party marketing and/or distribution arrangements with other vendors. It is putting the finishing touches on an entire distributed factory system, to be commercially available by the year's end, which it developed as part of another type of partnership—this one with Boeing Computer Services, Tandem Computers, and Electronic Data Systems.

ASK Computer Systems, which also teams with third parties, offers choices to customers in the integration of their non-ASK software with its Manman program. The Los Altos, Calif.-based company launched its ASK Assistance Program last summer, under which it works directly with customers in MRP II implementation planning.

Through its Manman Engineering module, it now offers customers a "generic" link to 10 popular CAD/CAE packages. Similar products—one for shop-floor data collection and another for automobile release accounting—will be released early this year, according to David Sohn, vice president of marketing.

Regardless of their particular strategies, all of the MRP II vendors probably would agree with a Micro MRP spokesperson, who says, "We stress functionality. What you call it is up to you. But once you have control of your manufacturing processes, you can automate." ■

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NETWORKING

IBM, LAN Firms Battle Over Server

Support for the new "named pipes" applications programming interface grows while IBM pushes its APPC.

BY SUSAN KERR

The positioning statements have been issued. Now it's getting down to brass tacks. Beginning this quarter and going on throughout 1988, PC LAN vendors will unveil competing and widely varying means of support for IBM's new Operating System/2. But swiftly emerging as a winner in this vocal and lucrative battle for the networked desktop is a dark horse called IBM's midrange and mainframe strategy.

It appears that with OS/2, IBM may be able to further a very important goal. By way of its OS/2-related networking products, IBM's up-and-coming applications programming interface—called Advanced Program to Program Communications (APPC)—is receiving the grudging support of applications developers and networking vendors that it hitherto hasn't enjoyed. A component of IBM's strategic Systems Application Architecture (SAA), APPC is to provide peer-to-peer communications among IBM systems and should allow better integration of microcomputer applications with those residing on larger systems.

APPC is the applications programming interface (API) of choice for IBM's new OS/2 LAN Server 1.0. It is scheduled to ship this November for $995. The LAN Server requires IBM's OS/2 Extended Edition and will provide resource sharing services.

The LAN Server 1.0 announcement possibly raises more questions than it answers, but at least one issue has been laid to rest. IBM is not supporting in its entirety the LAN Manager platform co-developed by OS/2 partner Microsoft Corp. and networking vendor 3Com Corp., Santa Clara (see "Microsoft and 3Com Position LAN Manager as OS/2 Standard," Aug. 15, 1987, p. 15).

But IBM's decision was not a complete blow to these two industry leaders. IBM did them a service by endorsing the concept of OS/2-based network servers and by using at least part of the LAN Manager, including the Requestor (a group of commands that allow workstations to request services from a server). Also, IBM and other vendors will continue to support NetBIOS.

Endorsements are not all flowing in one direction, though. A major push by the LAN Manager folks is an API called "named pipes." It is to this interface that LAN Manager supporters would like applications developers to write. Named pipes supposedly simplifies the effort of building network applications. IBM will use named pipes technology within the OS/2 LAN Server, but it has not yet announced whether it will provide the named pipes APIs to developers; it is conceivable that it won't.

Instead, IBM is pushing its APPC scheme. Yet despite IBM's previous strategic positioning of APPC, few applications using APPC are out on the market. That could be about to change—where IBM goes, others follow.